TYCON

TP-SCPOE-24xx-HP Series

Solar & PoE Battery Charger

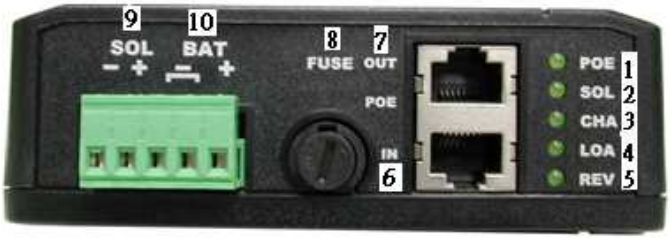
USER'S MANUAL

TYCON POWER SYSTEMS

Features:

- Battery Polarity Reverse Protection
- Battery Over Charge Protection
- Battery Over Discharge Protection
- Solar Panel Polarity Reverse Protection
- Solar Panel Over Charge Protection
- Output Short Circuit Protection
- Output Over Voltage Protection
- POE Output Short Circuit Protection
- POE Output Support 802.3af Function (TP-SCPOE-2448D-HP)
- Two Input method:
  (1)Solar Panel (2)PoE Power Source (Always Solar First.)
- Up to Three Outputs:
- DIN Rail Mountable

Panel Description:



Item	Name	Descriptions
1	POE :	PoE power input indicator: the LED lights when the PoE input jack (the lower jack) has 36V~57V input.
2	SOL :	Solar power input indicator: the LED lights when SOL terminal is connecting to a solar panel.
3	CHA :	Charging indicator: the LED lights when BAT terminal is connected to battery and charging, the charger power may from solar or PoE.
4	LOA :	Loading indicator: the LED lights when the rear panel output terminal is connecting to a device and offering power. The LED always on when power ready.
5	REV :	Battery polarity reverse indicator: the LED lights when the battery polarities are reversed. (detail description see Sec. 5.1)
6	IN :	PoE Input Jack: the lower RJ45 jack, used for PoE input. Allowed input voltage 36~57V
7	OUT :	PoE Output Jack: the upper RJ45 jack, used for PoE output; Output voltage depends on what model you selected.
8	Fuse	Fuse: for output over current protection, limiting the battery output current <= 10A. (If solar panel or PoE source is installed before the battery, and if the polarities of battery are reversed, then the fuse will be burnt.)
9	SOL :	Solar Panel Terminal: used to connect the solar panel.
10	BAT :	Battery terminal: used to connect the battery. **NOTE: ALWAYS CONNECT THIS TERMINAL FIRST AND DISCONNECT LAST.**
11	LOA :	Load Terminal: The output voltage is the same as battery voltage. Maximum voltage clamped at 24.5V.

Operation Guide

NOTICE:

1. Connect the battery to the BAT terminal. Make sure the polarities are correctly connected. Sequentially connect the solar panel to SOL terminal and connect POE source to PoE input (lower) jack. (If solar panel or PoE source is installed before the battery, and if the polarities of the battery be reversed, then the fuse will be burnt.)

2. Make sure the battery is properly connected to the unit. If no battery is connected, then the voltage at BAT terminal will be approx 27.3±0.5V

3. The solar panel cannot be used stand alone without battery connected.

4. When a solar panel and PoE input are connected to the charger, if the voltage of solar panel is higher than 30V, then solar panel is always the main power source of the charger.

5. When charge from solar panel, as the battery full and turn to floating stage, the CHA light will start flash.

6. When charge from PoE, as the battery full, the CHA light will be turn off, if the CHA is always flash, that means the input wattage lower than the required minimum wattage. If only charge battery, the minimum PoE input wattage is 94W, if full load, the minimum PoE input wattage is 160W.

7. When battery connect to BAT terminal and with valid voltage, then the LOA indicator will always light on even no load connected.

▪Electrical specifications

1.0 INPUT

1.1 Input Source types:
A. Solar Panel
B. POE

1.2 Input Voltage:
A. Solar Panel: 30V~36V
B. POE: 36V~57V **(94w Min. For Only Charge, 160w Min. For Full Load.)**

2.0 OUTPUT

Model	TP-SCPOE-2424-HP	TP-SCPOE-2448-HP	TP-SCPOE-2448D-HP
Output 1* (at rear terminal)	24V/1.5A (as Bat. Volt.)*	24V/1.5A (as Bat. Volt.)*	24V/1.5A (as Bat. Volt.)*
Output 2 (at upper RJ45)	24V/1.0A (as Bat. Volt.)*	48V/0.625A (regulated)	48V/0.35A (regulated)

*maximum voltage clamped at 24.5V

3.0 Battery Charge Types:

A. Solar Panel: charge current depends on the wattage of the solar panel.
B. POE: fixed current, 2.6A max

4.0 Battery Types: 24V Lead Acid Battery

5.0 Protection:

5.1 Battery Polarity Reverse Protection:
If only battery connected to terminal, when the battery polarities were reversed, the model will stop output and REV indicator light on.

When the battery be removed and re-connected to terminal, the function will be disable, if there is PoE power sources connected, when the battery polarities reversed, the fuse will be burnt.

5.2 Battery Over Discharge Protection:
Cuts off the load when the battery voltage is lower than 20V ± 0.3V, and auto recover when the battery voltage returns to 22.3 V ± 0.3V

5.3 Battery Over Charge Protection:
Fuse control, over 10A, the fuse will be burnt.

5.4 Solar Panel Polarity Reverse Protection:
When solar panel polarities be reversed, the charger stop output, it won't damage the charger or end device

5.5 Solar Panel Over Charge Protection:
When charge current over 10A, the fuse will be burnt.

5.6 Output Short Circuit Protection:
When the rear output terminal or PoE output be short circuit, protection be active, the product stop output and auto-recover when the connector back to normal connection.

5.7 Battery Output Current Limit:
The fuse will be burnt when battery output current over 10A

5.8 Load Output Voltage Limit:
The output voltage on the rear terminal normally is the same as battery, if the battery voltage higher than 24.5V, the output voltage on the terminal will be clamped at 24.5V. The PoE output of TP-SCPOE-2424-HP with the same limit.

6. GENERAL DESCRIPTION

6.1 Operation Temperature:	-20 - +60 Degree
6.2 Storage Temperature:	-40 - +85 Degree
6.3 Operation Humidity:	5% - 90%
6.4 Cooling:	Free air cooling
6.5 SIZE	150*118*40mm (D*W*H)

7. RJ45 Connected and pin out:

RJ-45 Input (Data & Power)			RJ-45 Output (Data & Power)	
Pin	Symbol	Description	Symbol	Description
1	RX+	Data Receive	RX+	Data Receive
2	RX-	Data Receive	RX-	Data Receive
3	TX+	Data Transmit	TX+	Data Transmit
4	(-Vdc)_return +	Feeding power(+)	(-Vdc)_return +	Feeding power(+)
5	(-Vdc)_return +	Feeding power(+)	(-Vdc)_return +	Feeding power(+)
6	TX-	Data Transmit	TX-	Data Transmit
7	-Vdc	Feeding power(-)	-Vdc	Feeding power(-)
8	-Vdc	Feeding power(-)	-Vdc	Feeding power(-)